

WHAT IS CLAIMED IS:

1. A composition for the controlled release of GnRH, analogs or agonists thereof to treat disorders of the reproductive system or induce ovulation in animals, comprising:
  - (a) a non-polymeric, non-water soluble liquid carrier material having a viscosity of at least 5,000 cP at 37°C that does not crystallize neat under ambient or physiological conditions;
  - (b) GnRH, analogs, agonists, or a combination thereof.
2. The composition of claim 1, wherein the non-water soluble liquid carrier material is sucrose acetate isobutyrate.
3. The composition of claim 2, wherein the non-water soluble liquid carrier material is present in an amount from about 99.5 percent to about 10 percent by weight, relative to the total weight of the composition.
4. The composition of claim 3, wherein the non-water soluble liquid carrier material is present in an amount from about 95 percent to about 25 percent by weight, relative to the total weight of the composition.
5. The composition of claim 2, wherein the composition further comprises a solvent in which the non-water soluble liquid carrier is soluble.
6. The composition of claim 5, wherein the solvent is selected from the group consisting of ethanol, dimethylsulfoxide, ethyl lactate, ethyl acetate, benzyl alcohol, triacetin, N-methylpyrrolidone, propylene carbonate, and glycofurol.
7. The composition of claim 5, wherein the solvent is propylene carbonate.

8. The composition of claim 5, wherein the solvent is present in an amount from about 10 to about 50 percent by weight, relative to the weight of the composition.

9. The composition of claim 1, wherein the GnRH analog is deslorelin.

10. The composition of claim 1, wherein the GnRH analog is selected from the group consisting of deslorelin, avorelin, leuprolide, and natural LHRH.

11. The composition of claim 1, wherein the composition is to induce ovulation in female mammals.

12. The composition of claim 11, wherein the mammal is a sow or gilt.

13. The composition of claim 5, comprising sucrose acetate isobutyrate and propylene carbonate in a weight ratio of about 70:30 and containing deslorelin acetate sufficient to deliver a dose of between about 1  $\mu\text{g}$  and about 100  $\mu\text{g}$  of deslorelin acetate.

14. The composition of claim 13, wherein the deslorelin acetate is present in the composition at a concentration of between about 12.5  $\mu\text{g/ml}$  and about 25  $\mu\text{g/ml}$ .

15. The composition of claim 14, wherein the deslorelin acetate is present in the composition at a concentration of about 25  $\mu\text{g/ml}$ .

16. The composition of claim 13, wherein the dose of deslorelin acetate delivered is between about 6.25  $\mu\text{g}$  and about 25  $\mu\text{g}$ .

17. The composition of claim 16, wherein the dose of deslorelin acetate delivered is between about 6.25  $\mu\text{g}$  and about 12.5  $\mu\text{g}$ .

18. A method of treating reproductive disorders in animals, comprising administering to an animal in need thereof an effective amount of the composition of claim 1.

19. A method of inducing ovulation in a female mammal or spawning in a finned fish or shellfish, comprising administering to said female mammal, finned fish or shellfish an effective amount of the composition of claim 1.

20. The method of claim 19, wherein said female mammal is a sow or gilt.

21. The method of claim 20, wherein said female mammal is a cow or heifer.

22. The method of claim 21, wherein said female mammal is a heifer.

23. The method of claim 19, which comprises inducing cyclicity or ovulation in a seasonally nonovulatory mammal.

24. The method of claim 23, wherein said composition releases GnRH, analogs, or agonists thereof over a period of about 1 to about 30 days.

25. The method of claim 24, wherein said period is about 14 to about 30 days.

26. The method of claim 19, wherein said composition releases GnRH, analogs, or agonists thereof over a period of about 1 to about 6 hours.